

# An Educator's Guide

## How to Raise Woolly Bear Caterpillars

There are bears and tigers in Santa Barbara and not all at the Zoo. They might be in the backyard—woolly bear caterpillars become tiger moths!

Woolly bears can be taken in and raised as an insect pet over several months as they complete their life cycle. They are safe to handle and observe close up.

A small tank with a lid (or a Tupperware™ or recycled cottage cheese container) with a few small air holes in the top is all that is needed. A paper towel in the bottom makes clean-ups easier.

The woolly bear is a caterpillar, or **larva**. It hatched out of an egg, which the adult female laid on the host plant. Eggs take about 5 to 12 days to hatch. When tiny, the caterpillar gets around to find food by ballooning with a wisp of silk, or using it like Tarzan's vine to get to the next batch of leaves.



Eddie Dunbar

As it grows, the woolly bear can move pretty quickly on its legs. It will spend the next few months eating and growing and shedding its skin to get bigger. It will eat its proper food leaves or can be feed iceberg lettuce (in an emergency if its proper food can't be found).

Gather a supply of its food plant, put it in a jar of water with a plastic bag secured around the leaves, and keep it in the refrigerator to give the woolly bears fresh food daily. They eat at night and sleep during the day, hiding under the leaves and debris. Peak at night to see how active the caterpillars are!

A caterpillar will shed its skin or **exoskeleton** about five times. This is called **molting**, and the stage between molts is called an **instar**. If it molts in its later stages, the old skin may be found on the bottom of the container, looking like a discarded miniature fur hat. While woolly bears are eating and growing, be sure they have plenty of fresh food to eat. They do not



Eddie Dunbar

Woolly Bear

need water, because they gets moisture from the leaves.

Mist the side of the container or a leaf with water and the woolly bear might be seen taking a drink.

Leave some old twigs and leaves in the container, because the woolly bears like to have something to hide in during the day. If too much accumulates, or if there is a lot of **frass**, the pellet-like droppings, you should remove them regularly to keep their home clean.

When a woolly bear has finished eating and is ready to molt for the last time, it will rest in the leaf litter or under the paper towel and then change into a pupa.

It may spin a loose, net-like **cocoon**, and **pupate** for a few months. The adult moth should emerge in its season (see page 3). If raised in a classroom with artificial lights and a longer day cycle, it may emerge earlier than expected.

When a woolly bear emerges as a moth, it will need to eat, fly at night, and find a mate. Release it back to Nature because this is a native species. As an adult, the moths are docile, and will sit on a finger for close observation. Be careful if its wings open and start to flutter—this means the moth is ready to take off in flight!



Gary McDonald

Painted Tiger Moth

If both sexes are present, they will mate and the female will lay a cluster of pearly eggs and the cycle will start all over again.

Children can learn a lot from a caterpillar pet. They can keep records on the caterpillar, like the dates when it molts, when it changes to a pupa, and when it emerges as a moth. Records can include how many leaves of what plants it eats.



## Feeding the caterpillar

In the Santa Barbara area, there are several species of tiger moths. The caterpillars are similar but their diets may differ. The best bet, unless the caterpillar was found in the act of eating a plant, is to give it a variety of plants in the area where it was found and see what it will eat.

- Edward's Glassy Wing Tiger Moth—oak leaves
- Mexican Tiger Moth, Ornate Tiger Moth, Painted Tiger Moth, and Vestal Tiger Moth—nasturtium, mustards, other area native shrubs or vines like vetch and wild cucumber vine, sunflowers, or garden plants like echias and coral honeysuckle
- Spotted Tiger Moth—sycamore and willow leaves
- Acraea Tiger Moth—will eat most plants in field or garden!

## Look at the caterpillar's feet!

When a fuzzy black caterpillar is found running around at dusk, check the color of their feet and what plants they are nearest. If found near oaks, and its slippers are beige to light yellow, it is most likely an Edward's Glassy Wing Tiger Moth, and will need oak leaves to eat.



Coast Liveoak

If the feet look pink to reddish, it is a Painted Tiger Moth caterpillar and it will eat nasturtium. This plant is not native and is invasive.



Nasturtium

Native insects and other animals need native plants. Pick all the non-native nasturtium needed for wooly bears along roads where the earth has been disturbed. Look for the bright orange flowers. Most wooly bears will eat nasturtium. Lettuce works as an emergency food.

Enjoy observing wooly bears!.

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Gary McDonald



### Acraea Tiger Moth (*Estigmene acrea*)



**Adults fly at night:** summer; may be two generations per year  
**Caterpillars active:** late summer to fall  
**Caterpillars rest, pupate:** winter to spring

### Vestal Tiger Moth (*Spilosoma vestalis*)



**Adults fly at night:** spring, March and April  
**Caterpillars active:** summer to fall  
**Caterpillars rest, pupate:** winter  
 (Hind wings are white with pink/red markings on frong legs.)

### Ornate/Hewlitt's Tiger Moth (*Gramma orante*)



**Adults fly at night:** summer  
**Caterpillars active:** fall to winter  
**Caterpillars rest, pupate:** winter to spring  
 (Hind wing color varies from hot pink to peach to gold with black dots.)

### Edward's Glassy Wing Tiger Moth



**Adults fly at night:** August through November  
**Caterpillars active:** winter to spring  
**Caterpillars rest, pupate:** spring to summer  
 (Bright orange/pink body with see-through wings.)

### Painted Tiger Moth (*Arachnis picta*)



**Adults fly at night:** September to October, may be a second generation in May if you have street lights on at night.  
**Caterpillars active:** fall, winter, spring  
**Caterpillars rest, pupate:** summer

### Spotted Tiger Moth (*Halysidota tessellaris*)



**Adults fly at night:** spring to summer  
**Caterpillars active:** fall  
**Caterpillars rest, pupate:** winter

### Mexican Tiger Moth (*Notarctia proxima*)



**Adults fly at night:** summer  
**Caterpillars active:** fall to winter  
**Caterpillars rest, pupate:** winter to spring  
 (Male adult hindwings are beige; female's hindwings are pink and black.)

Tiger Moth images by Dr. Michael Caterino, SBMNH Collections and Research Center from mounted specimens.

